

**Home Buyers:
Balancing
Escalating Energy Related Costs &
Affordable Loan Payments
Dept of Commerce - HOME Grant Managers**

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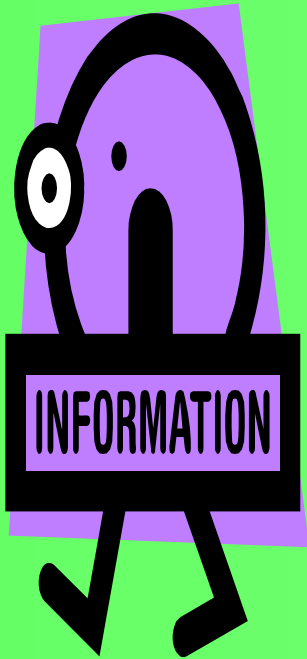
Montana Department of Environmental Quality

Air, Energy & Pollution Prevention Bureau

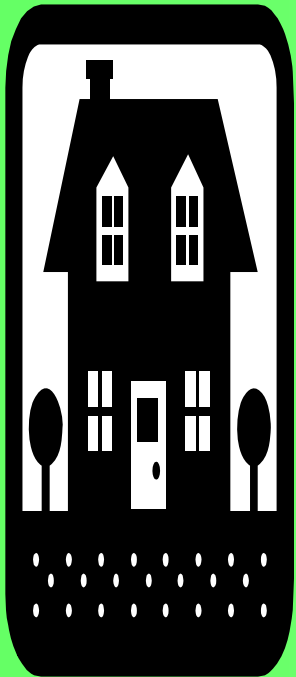


Presentation Overview

- Impact of Energy Related Cost on Household Budgets
- Energy Codes: Friend or Enemy
- Benchmarking Utility Bills
- What Affects Utility Bills
- Furnace Replacement Scenario
- Considerations to Increase Buying Power
- Energy Related Assistance – DEQ



Theme: Energy Inefficient Housing May Not Be Affordable for Low / Fixed Income Occupants



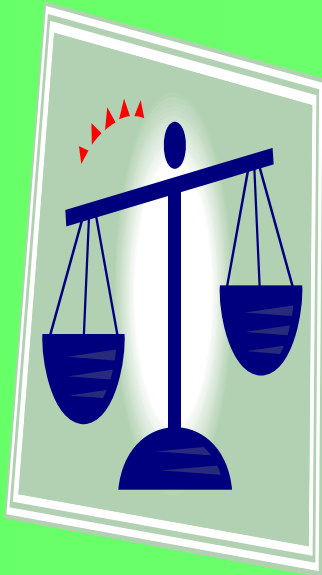
Increased Energy Related Costs Last Year (conservative estimates)

● Auto @10K miles/15mpg	\$28/mo
● N.Gas/Elect, budget billing(*)	\$26/mo
● Groceries 5% (\$400 * 5%)	\$20/mo
● Other (clothing, water, medical, etc.)	\$??
● <i>Estimated Added monthly Costs:</i>	<hr/> \$74/mo

(*) **Note:** Utilities for family and/or someone staying at home during the day could easily double.

Energy Code: Friend or Enemy

Energy Code:

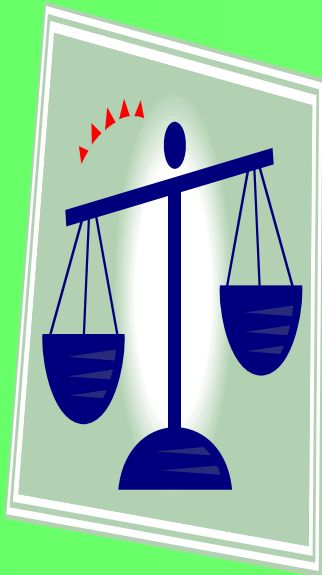


- Min / Max, Average, or Optimal ???
- Complying with or exceeding the *MT Energy Code saves money*
- Bottom line: If we *cheat* on the *energy code* we pay more for energy as long as we own the home

Energy Code Vs Energy Star

Energy Star Rated Products:

- Approx *15 % more energy efficient* than MT Energy Code
- ***Recommend replacing worn-out and/or inefficient components w/ Energy Star Rated Appliances & Components***
(i.e., lighting, furnaces, boilers, windows, refrigerators, dishwashers, etc.)



Energy & Affordable Housing for 1st Time Home Buyers



- *Be realistic regarding monthly energy costs and affordable housing* (utility bills, water, transportation, etc.)
- *Consider including energy upgrades in the loan* (i.e., Energy Star Furnace)
- *Take advantage of utility incentives* (i.e., lighting, insulation, etc.)

Before Buying: Understand how much utilities will cost

Benchmark: Average Monthly Utility Cost

- *Min 1-year of annual utility costs* (heating/cooling, electric, water, etc.)
- *Include annual costs of gas for vehicles* (mpg is lower during fall, winter & spring)
- *Note: Utility & gasoline costs will be increasing annually*
- *Average your monthly costs for energy & water*

Utility Bills: May not tell the Whole Story??

Identify Variables Affecting Utility Costs

- Was anyone home during the day?
- Number: adults, children, teenagers living there?
- Were children or elderly at home during day?
- Was a wood or pellet stove used?
- Well maintained yard (water)?

Q. How would answers affect costs for heating, cooling, water & electricity, compare to your use?

How Energy Efficient Is the House

Benchmarking Energy Efficiency Rating

- *Use: Energy Star Yardstick*

To find out if house energy use is above average.

- Need to enter house age, Sq.Ft., # occupants
- Need energy bill units of power (elect, N. Gas, etc.) for a consecutive 12-month period (one year). Contact utility
- Need inter-net access: Available at libraries
- Web Address for Energy Yardstick:
www.energystar.gov/index.cfm?c=home_improvement.htm_improvement_index_tools

Should We Replace The Furnace?

House Being Purchased (Example):

- 30 year old house & furnace
- Existing furnace AFUE - 60%
- Furnace useful life - 30 yrs
- ***Risk*** for furnace break down or bad heat exchanger w/in 5 yrs – ***High***
- O & M costs - Increasing
- ***Q. Where will you get \$3K-\$4K to replace furnace? ? ?***

Furnace Replacement w/ HUD Energy Efficiency Mortgage?

HUD-EEM (option): Allow \$4K *above mortgage limit* for installing energy conservation measures

Example (Replace old furnace 60% AFUE):

- Furnace Cost (*EnStar* >90% AFUE) = \$3K
- HERS Inspection fee = (+) \$500
- ***Est. Energy Savings/mo = \$22***
(savings will increase w/higher energy costs)
- ***Added Loan Cost/mo @ 6% for \$3.5K = \$21***
- ***Rate of Return – 7.2%***
- Total monthly payment for HUD-EEM allows exceeding eligibility maximum for house loan



Increasing Buying Power for Energy Upgrades: Keep House Affordable

Buy Smart, Consider:

- *Downsize the size house* you need & buy
- *Negotiate* in the Buy-Sell Agreement to *include upgrading energy conservation measures (ECMs)* (i.e., utility incentives for insulation, lighting, Programmable T-Stats, etc.)
- *Check w/ local utilities for incentives* to install ECMs & include added cost in loan
- *Upgrading older furnaces/boilers to Energy Star Rated* as part of the home mortgage payment

Home Improvements & Solutions to Energy Decisions

Energy Star Remodeling Calculator

- Web-site: <http://rehabadvisor.pathnet.org/index.asp>
- Calculate for: maintenance, indoor quality, comfort, water use, etc.

Home Improvement Tips

- http://www.energystar.gov/index.cfm?c=home_improvement.hi_tips
- Replacement of: Lighting, heating/cooling, appliances, Programmable Thermostats, etc.

Summary in Helping to Keep Your House Energy Affordable (Part 1)

- *Understand your total energy & water costs*
- *Consider downsizing the size house needed*
- *Negotiate adding energy conservation measures in Buy-Sell agreement*

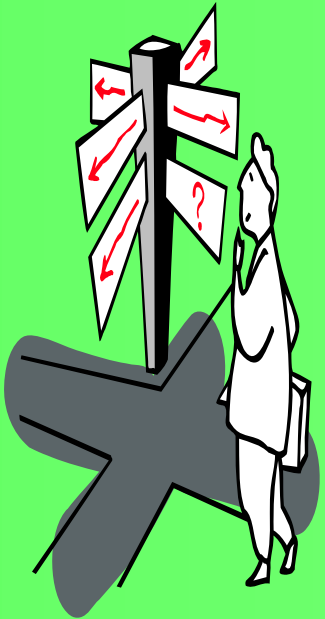
Summary in Helping to Keep Your House Energy Affordable (Part 2)

- Where possible *include costs for energy upgrades in the home loan* (i.e., Energy Star Furnace, insulation tied to utility incentives, etc.)
- *Use the Energy Star Websites* to help make energy related home improvements
- *Consider Contacting DEQ Energy Folks* for non-enforcement assistance

Web Resources

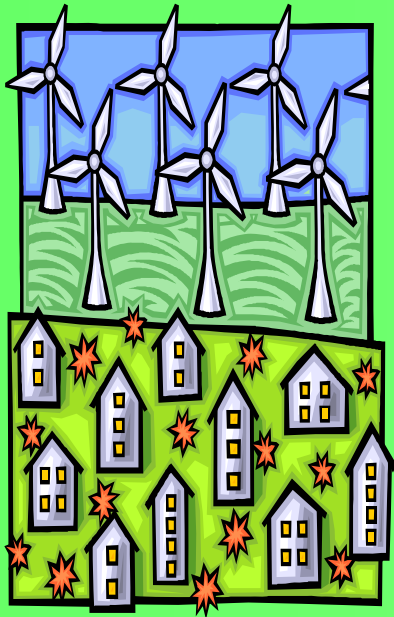
- **Energy Star Rehab Advisor** (Multifamily Heating & Cooling System):
<http://rehabadvisor.pathnet.org/sp.asp?id=10770>
- **Energy Star Web Site:**
<http://www.energystar.gov>
- **Montana Energy Savers Guidebook:**
<http://www.EnergizeMontana.com>
- **DEQ Building Commissioning Website:**
<http://www.deq.state.mt.us/Energy/buildings/index.asp>

Overview: Energy Related TA-Partnerships Available from DEQ



- **Commissioning Case Studies**
- **Benchmark Energy Use Rating**
- **Development of Mini-O&M contracts**
- **Analysis options: Commissioning & Energy Studies**
- **Contract Development (Analysis & E-PC)**
- **O&M Training**
- **Renewable Energy Projects**
- **Pre-qualified E-PC & Analysis providers**
- **Montana Energy Code & Energy Star Guidelines**
- **Energy Performance Contracting**

Consider Contacting DEQ's Energy Folks for array of non- enforcement assistance options ☺



Contact for further information and
other resource personnel:

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MT-Department of Environmental Quality
Air, Energy & Pollution Prevention
Bureau